

Geologic Site of the Month  
November, 2009

***Civil War Soldiers' Monument, Bath, Maine***



43° 54' 39.83" N, 69° 49' 14.28" W

Text by  
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## Introduction

The Soldiers' Monument in Bath, Maine was dedicated to those men of Bath who gave their lives in service during the Civil War.



**Figure 1.** Sagadahoc County Court House and Soldiers' Monument, Bath, ME.

The Monument

"The erection of a monument to those who fell in the Civil War was undertaken by the city in 1867 and it was completed in 1869 at a total cost of \$4975, exclusive of the lot opposite the Court House which had been owned for some years. This monument, which still stands as a reminder of the sacrifice of the Union soldiers, consists of a granite shaft over 30 feet high, surmounted by an eagle, with a marble tablet let into each face of the die. The tablet on the west face bears the inscription:

*HONOR THE BRAVE  
Erected by the City of Bath  
A.D. 1867  
and Dedicated to  
THE MEMORY OF HER SONS  
Who Died  
That the Nation Might Live*

*"The world will little note what we say, but it can  
never forget what they did."- Lincoln at Gettysburg*

The other three tablets contain a roster of the names of 109 officers and men who made the great sacrifice."

- The Edward Clarence Plummer History of Bath, Maine, (Owen, 1936)



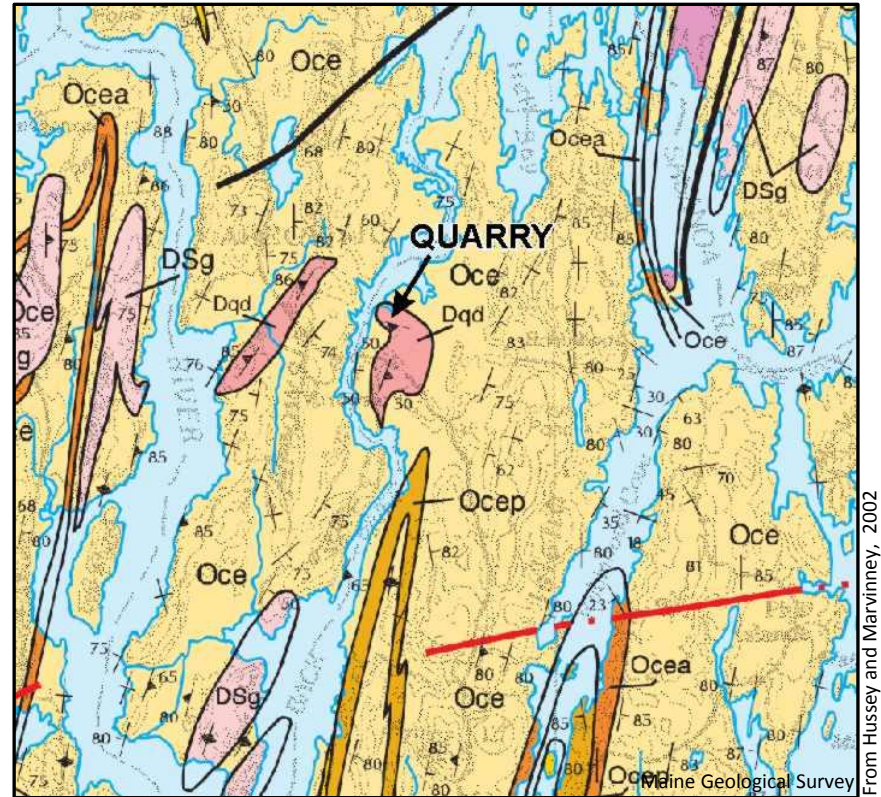
## The Monument



**Figure 2.** West facing marble tablet with honoring statement (left) and south facing marble tablet with names of soldiers (right).

The Monument Source Rocks

The monument is noteworthy for several reasons; it was one of the earliest Civil War monuments to be erected in the State of Maine (see historical notes at end of text), and the stone that was used in the monument is a relatively local rock, a foliated quartz diorite (not granite as noted above) from a small plutonic body on Georgetown Island (Figure 3). The quartz diorite was sampled for U-Pb zircon dating of the pluton with a resultant age of  $376 \pm 3$  million years, a late Devonian age (Hussey and Berry, 2006). It is not known where the marble tablets were acquired. Although there is marble locally in the area (Hussey and Berry, 2006), it is not the source of the marble tablets; the source is unknown but the tablets may have come from the marble belt in western New England.



From Hussey and Marvinney, 2002

**Figure 3.** Location of quarry



### Quartz Diorite

The monument is directly opposite the front of the Sagadahoc County Court House and from a passage in Richard Snow's History of the Court House, "Old Sagadahoc," the foundation of the court house also is from the same quartz diorite body in Georgetown. The location of the site from which the rock was quarried was not indicated in Snow's book.



**Figure 4.** Strongly foliated quartz diorite (Dqd in Figure 3), road cut at north end of Georgetown Island. Foliation is defined by thin partings rich in biotite. A sample was taken from this locality for U-Pb dating of the pluton (376 ± 3 million years; Hussey and Berry, 2002).

Quartz Diorite Quarry

Arthur Hussey, Bowdoin College Professor of Geology Emeritus, recommended the author examine a draft version of the Bedrock Geology of the Phippsburg 7.5-minute quadrangle on file at the Maine Geological Survey showing the location of quarries in the quartz diorite body. It is located on a Nature Conservancy property, the Margot Domizi Freeman Preserve. A visit to the site, with permission from the landowner who donated the property, resulted in locating several quarry openings (Figures 5-9).



**Figure 5.** Largest quarry at the site; the angled flat rock surface on the right side of the image is about the same dimension as the uppermost single piece of the monument, and may well have been where the stone was removed to be worked.



Quartz Diorite Quarry



Photo by Tom Weddle

**Figure 6.** Drill marks on surface of split rock at site adjacent to a tributary of the Back River (hammer handle for scale).



## The Quarry and Back River

There were also indications of a small-scale quarry operation utilizing the small stream tributary to the Back River to transport the stone, undoubtedly by ship or barge.



**Figure 7.** Tributary to Back River; note proximity of outcrop to the stream.



**Figure 8.** Smaller quarry opening adjacent to tributary.

Photos by Tom Weddle

The Quarry and Back River



Photo by Tom Weddle

Maine Geological Survey

**Figure 9.** Timbers found below modern marsh are most likely part of a loading dock from which the stone could be loaded for transport over water.





### The Quarry and Monument Stones

A sample of the quarry stone was taken for comparison with the court house foundation and the monument; the match is good (Figure 10). The quartz diorite formed deep in the earth's crust by cooling of molten rock (magma) to form a solidified plutonic body. Over time, erosion of the earth's surface has exposed the igneous rock now found in Georgetown today. It contains some features that are seen more clearly on the monument than in naturally exposed bedrock. These features include minerals that are aligned in the same direction within the rock, called the grain of the rock, or foliation (Figure 4).



Photos by Tom Weddle



**Figure 10.** (Left) Comparison of quarry sample with foundation block of Sagadahoc Court House. (Right) Comparison of quarry sample with base of monument (dark stone to right of sample). The lighter stone is most likely from the Hallowell granite quarry in Hallowell.



### Igneous Features

Other visible features termed *schlieren* (Figures 11-13), a German word that means streaks, are defined as irregular dark or light streaks or bodies in plutonic igneous rock that differ in composition from the principal mass. The streaks or bodies may have diffuse or sharp boundaries, and originally may have been inclusions of other rock, or mineral segregations.



**Figure 11.** Schlieren in the base of the monument.

Schlieren



Photo by Tom Weddle

**Figure 12.** Schlieren on the obelisk.



Schlieren



Photo by Tom Weddle

Maine Geological Survey

**Figure 13.** Close-up view of schlieren on a foundation stone of the Sagadahoc Court House.



### Flow Layering

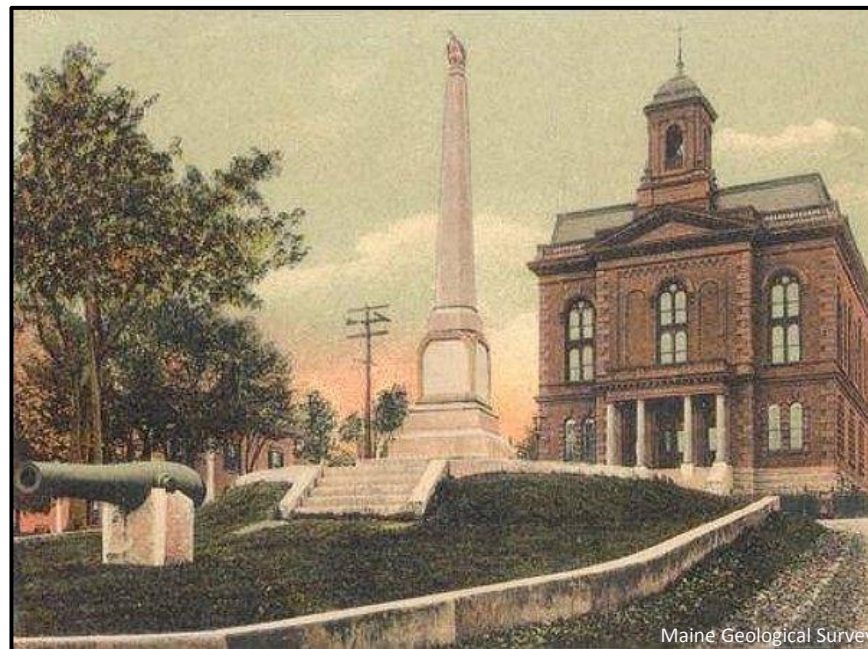
Other terms that may apply to features in the quartz diorite include flow layering or banding, defined as structure in an igneous rock characterized by alternating layers of color, mineral composition, or texture formed as a result of flow of magma.



**Figure 14.** Exposure in foundation hole of landowner's home showing well developed layering in the quartz diorite that possibly formed as a result of flow of magma and segregation of light and dark minerals.

### The Monument

Further research into the history of the monument by Peter Goodwin has found records indicating payment of \$500 for construction of the monument to a Vincent M. Hogan, of Georgetown, in February of 1867, contradicting the completion date of 1869 for the monument noted in the History of Bath. Also, from the 1860 Census, there is a Vincent M. Hogan living in a rented house on Front Street in Bath, occupation is stonecutter, and by the 1870 Census he had relocated to Vinalhaven. The first monument erected to the Union dead in the United States is a monument at Mount Hope Cemetery in Bangor, Maine, dedicated June 17, 1864.



**Figure 15.** Sagadahoc County Court House and Soldiers' Monument, Bath, ME; from a 1908 postcard.

## References

- Bates, R.L., and Jackson, J.A., 1980, Glossary of Geology: American Geological Institute, Falls Church Virginia, Second Edition.
- Hussey, Arthur M., II and Berry, Henry N., IV, 2002, [Bedrock geology of the Bath 1:100,000 map sheet, coastal Maine](#): Maine Geological Survey, Bulletin 42, 50 p. report, 58 figs.
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- Owen, H. W., 1936, The Edward Clarence Plummer History of Bath, Maine: The Times Company, Bath, Maine.
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## Acknowledgements

Arthur Hussey, for suggesting the quarries on Georgetown Island as possible candidates for the source of the stone.

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Rick Freeman of Georgetown, former landowner of the quarries.

